

WHAT IS CLAIMED IS:

1. A method of monitoring a cellular call, comprising the steps of:

(a) remotely accessing a switch at a first location, the switch servicing one or more cellular sites in a cellular system;

5 (b) remotely placing the switch in a call monitor mode to monitor a mobile telephone;

(c) recording, at the switch, call information related to a cellular call being conducted by the mobile telephone;

(d) transmitting the call information to a second location;

10 (e) storing, at the second location, the call information as data in a standard file format; and

(f) displaying the data in a graphical format,

15 wherein the call information includes position information for the mobile telephone.

2. The method of claim 1, further comprising receiving position information via a GPS receiver.

20 3. The method of claim 2, further comprising transmitting the position information over the cellular system.

4. The method of claim 1, wherein at least one of steps (a), (b) and (d) occurs over at least one of a hard wire and a wireless link.

5 5. The method of claim 1, wherein step (f) comprises the step of displaying at least one of call signal strength and bit error rate.

6. The method of claim 1, wherein step (f) comprises the step of displaying a plot of signal strength and a plot of bit error rate.

7. The method of claim 1, wherein the graphical format includes a map.

8. The method of claim 1, further comprising the step of at least one of parsing, converting and scaling the call information to generate the data.

9. The method of claim 1, further comprising the step of displaying the identity of a serving cell site that is the cell site over which the cellular call is taking place.

10. The method of claim 1, further comprising displaying on a map a serving cell site and cell sites that neighbor the serving cell site.

11. The method of claim 1, further comprising the step of plotting a graph of the data and indicating when a call event has occurred.

12. The method of claim 1, further comprising the step of providing an
5 audible indication of a call event.

13. A method of monitoring the performance of a cellular telephone call, comprising the steps of:

(a) calling a first mobile telephone that is configured to be in an auto-answer
10 mode;

(b) receiving GPS location information indicative of the location of the first mobile telephone;

(c) recording data on a first computer, the data comprising telephone call parameter information available from the first mobile telephone and the GPS
15 location information;

(d) calling a second mobile telephone that is in communication with the first computer;

(e) transmitting via the second mobile telephone the data recorded on the first computer;

20 (f) configuring a cellular telephone system switch to be in a call monitor mode and recording cellular system information with respect to the first mobile telephone;

(b) forwarding the data and cellular system information with respect to the first mobile telephone to a second computer; and

(c) graphically displaying the data and cellular system information with respect to the first mobile telephone.

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14. The method of claim 13, further comprising graphically identifying when a call event has occurred.

15. The method of claim 13, wherein the second mobile telephone is configured to be in an auto-answer mode.

16. The method of claim 13, wherein the second mobile telephone has an antenna mounted on the exterior of a vehicle.

17. The method of claim 13, further comprising at least one of the steps of parsing, converting and scaling the cellular system information.

18. The method of claim 13, further comprising the step of plotting a graph of at least one of signal strength and bit error rate.

19. The method of claim 13, further comprising the step of indicating the signal strength at cell sites other than a serving cell site.

20. The method of claim 13, further comprising the step of audibly indicating that a call event has occurred.

5 21. The method of claim 13, further comprising the step of continually graphically displaying the data and cellular system information after new such data or information is received.

22. The method of claim 13, further comprising mounting or installing, respectively, a plurality of at least the first mobile telephones in a plurality of service vehicles, and monitoring any one of the first mobile telephones.

23. A system for monitoring call performance in a cellular telephone system, comprising:

15 (a) a cellular switch operable to be remotely placed in a call monitor mode, said switch further being capable of recording cellular system information upon being placed in the call monitor mode and subsequently downloading recorded cellular system information;

(b) a GPS receiver connected to a first mobile telephone via an interface unit;

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(c) a first computer including a display, the first computer being operable to (i) remotely access the switch, (ii) remotely place the switch in the call monitor

mode, (iii) receive and store recorded cellular system information and GPS location information relative to the first mobile telephone and (iv) graphically display the call information in combination with the GPS location information.

5 24. The system of claim 23, wherein the first mobile telephone is configured to be in an auto-answer mode.

25. The system of claim 23, further comprising a second mobile telephone and second computer each connected to the interface unit.

26. The system of claim 25, wherein the second computer records call parameter information available from the first mobile telephone.

27. The system of claim 25, wherein the second mobile telephone is
15 configured to be in an auto-answer mode.

28. The system of claim 23, wherein the first computer is operable to display the cellular system information and GPS location information in real or near real time.

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29. The system of claim 23, wherein at least one of the first and second computers is operable to perform at least one of parsing, converting and scaling the call information.

5 30. The system of claim 23, wherein the first computer is operable to graphically display at least one of signal strength, bit error rate and call events of a cellular call and a map including the location of the first mobile telephone.

31. The system of claim 23, wherein the first computer is operable to simultaneously display the signal strengths of cell sites that neighbor a serving cell site.

32. The system of claim 23, wherein the first computer is operable to audibly indicate when a call event has occurred.